

WHAT IS CLAIMED IS:

1. A computer system having an input/output processing unit for executing a file access, an access execution unit for requesting a file access to the input/output processing unit in response to a user instruction, and an access control unit for performing access control when the file access is executed, wherein:

said access control unit comprises:

a storage unit protected from the access execution unit;

a file list stored in said storage unit and describing security levels of files;

a user list stored in said storage unit and describing clearances of users;

an access control processing unit for judging whether the file access is legal in accordance with said file list, said user list, an access type of the file access, information identifying a file, and information identifying a user; and

an access monitor unit which:

sends, when the input/output processing unit executes a file access, the access type, the information identifying the file, the information identifying the user to said access control processing unit;

receives a validity judgement result of the file access from said access control processing unit;

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and

if the file access is legal, makes the input/output processing unit execute the file access, whereas if the file access is illegal, inhibits the file access.

2. A computer system with the access control unit according to claim 1, further comprising an exclusive control unit for protecting a storage area of said storage unit to be used by said access control processing unit from the access execution unit.

3. A computer system with the access control unit according to claim 2, further comprising a user list setting/managing unit for setting and managing said user list.

4. A computer system with the access control unit according to claim 3, wherein said user list setting/managing unit includes an authentication unit for authenticating a security administrator.

5. A computer system with the access control unit according to claim 4, wherein the security administrator is different from a system administrator who manages the access execution unit.

6. A computer system with the access control unit according to claim 1, further comprising a file list setting/managing unit for setting and managing said file list.

7. A computer system with the access control unit according to claim 6, wherein said file list

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setting/managing unit includes an authentication unit for authenticating a security administrator.

8. A computer system with the access control unit according to claim 7, wherein the security administrator is different from a system administrator who manages the access execution unit.

9. A computer system with the access control unit according to claim 1, further comprising:

an enciphering unit for enciphering a file if the file access for requesting to output a file to said storage unit is legal; and

a deciphering unit for deciphering the enciphered file if the file access for requesting to input the enciphered file from said storage unit is legal.

10. A computer system with the access control unit according to claim 9, wherein an exclusive control unit protects from the access execution unit a storage area in said storage unit storing at least one key information set to be used by said enciphering unit and said deciphering unit.

11. A computer system with the access control unit according to claim 9, wherein said enciphering unit and said deciphering unit use a plurality set of different key information and at least one cipher method for each security level written in said file list.

12. A computer system with the access control

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unit according to claim 1, further comprising an input/output monitor unit for monitoring that the input/output processing unit or said access monitor unit is not tampered or performs a predetermined operation, and instructing to inhibit an input/output of a file if the input/output processing unit or said access monitor unit is tampered or performs an operation different from the predetermined operation.

13. A computer system with the access control unit according to claim 1, further comprising a file access log processing unit for storing and managing information on each file access sent to said access control processing unit.

14. A computer system with the access control unit according to claim 1, wherein the access control unit is realized by a software module.

15. A computer system with the access control unit according to claim 1, wherein the access control unit is realized by a hardware module.

16. A computer system comprising:

a storage unit for storing information necessary for various processes;

a cipher function processing unit including a deciphering processing unit or a digital signature generating unit;

a key storage unit for storing key information to be used by said cipher function processing unit;

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a cipher function request processing unit for requesting to execute a cipher function in response to a user instruction;

a cipher function request monitor unit for monitoring a cipher function execution request from said cipher function request processing unit to said cipher function processing unit, sending the cipher function execution request to said cipher function processing unit, and receiving a process result from said cipher function processing unit; and

an exclusive control unit for protecting from said cipher function request processing unit a storage area in said storage unit and said key storage unit to be used by said cipher function processing unit.

17. A computer system according to claim 16, wherein said cipher function processing unit includes an authentication unit for authenticating a user.

18. A computer system according to claim 16, wherein said cipher function processing unit is realized by a software module.

19. A computer system according to claim 16, wherein said cipher function processing unit is realized by a hardware module.

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